ROOM DIVIDER SYSTEM FOR AN EXHIBITION BOOTH

Cross-Reference to Related Applications

Not Applicable

Statement Regarding Federally Sponsored Research or Development

Not Applicable

Background of the Invention

1. Field of the Invention

[0001] The present invention relates generally to portable, freestanding room dividers, more particularly, to such room dividers for use in defining exhibition booths in large meeting halls.

2. Description of the Related Art

[0002] Trade shows and exhibitions are commonly held in a multipurpose meeting hall which often has a floor area in excess of 150,000 square feet. Although the hall is used undivided for some events, for trade shows and exhibitions it is subdivided into individual exhibit booths in which different companies display goods and services. The smallest standard exhibition booth is ten feet by ten feet, however exhibitors requiring more space can rent larger areas in ten foot by ten foot increments.

[0003] Regardless of its size, each exhibit booth is separated from the adjacent booths by pipe and drape staging. Specifically, the rear and side walls of the booth are defined by a frame of vertical and horizontal pipes from which drapes are hung to provide some degree of privacy for each exhibitor. The vertical pipes for the rear wall

extend upward approximately eight feet from a movable metal plate on the hall floor, while the side wall pipes may extend the same height or be waist high from movable metal plates. The horizontal pipes have hooks at the ends which fit into brackets on the vertical pipes thereby forming the frame of the wall. The top horizontal pipe for each wall extends through a hemmed sleeve along the upper edge of the respective drape which then hangs downward from the pipe. Although the pipe and drape staging defines the exhibit booth area, it provides minimal sound insulation between booths and does not provide a surface on which exhibitors can hang displays.

[0004] The staging system for a single wall comprises many individual pieces: metal floor plates, two or more vertical pipes selected from several sizes, one or more horizontal pipes, and the fabric drape material. All of which must be stored in an organized manner between events. Wheeled carts typically are used to transport the staging materials between the storeroom and the exhibition hall. This erecting and dismantling of conventional pipe and drape staging is a labor intensive, time consuming and thus an expensive process. In addition, the nature of the use often requires that the fabric drape material be cleaned after each use.

[0005] Therefore, there is a need for a more convenient and efficient system for defining exhibition booths of various size increments of the standard ten by ten foot floor area.

[0006] Large rooms of schools and churches can be divided into smaller classrooms by portable freestanding dividers, such as described in U.S. Patent No. 5,272,848. This room divider has a plurality of hinged wall panels positioned between a pair of end members. The wall panels are supported by casters mounted on feet which project

laterally from the bottom of the wall panels. The end members also are supported by casters. The combination of wall panels and end members can be folded into a compact configuration for easy movement and storage. The wall panels of the divider can be open at angles to subdivide areas for a classrooms or other uses.

[0007] Heretofore, such prior room dividers for schools and churches did not meet the needs of exhibition halls for a number of reasons. The previous dividers did not conform to the ten foot by ten foot size of the conventional exhibit booth. Dividers of different heights could not easily be attached to each other to create a sturdy standard booth. The rear and side walls of the booth have to be secured to each other not only to prevent separation during use, but for added stability when exhibitors hang heavy displays on the walls. The side walls have to be immobilized during use to withstand people pushing against the walls. Furthermore conventional room dividers do not have handles for easy gripping in order to move the units and do not have a self contained means to lock adjacent room dividers in a 180° position needed to create the perimeter of an exhibit booth.

Summary of the Invention

[0008] A portable, freestanding room divider system is provided to break up a large hall into one or more exhibition booths. In its basic form, this system comprises first and second sidewall partitions extending from a rear wall partition.

[0009] The rear wall partition is formed by a plurality of wall panels connected together in a series by hinges at their vertical edges. A first wall panel and a last wall panel in the series both have a section along an outer edge that has two opposing sides with a first connector element on each of those sides. A first plurality of feet project

outward from at least some of the plurality of wall panels and have wheels thereon to support the rear wall partition on a floor. A first end support extends transversely outward from each side of the first wall panel and a second end support extends transversely outward from each side of the last wall panel. Both of the first and second end supports have a pair of wheels for engaging the floor.

[0010] The first sidewall partition is connected to the first wall panel and the second sidewall partition is connected to the last wall panel, thereby defining three sides of the exhibition booth. Each of the first and second sidewall partitions includes a plurality of sidewall panels connected together in a series by hinges. A first sidewall panel in the series has second connector element that releasably engages one of the first connector elements on the rear wall partition. A second plurality of feet project outward from at least some of the plurality of sidewall panels with at least one wheel thereon for supporting the respective sidewall partition on the floor.

[0011] In a preferred embodiment, a last sidewall panel in the series has a support stand that in a first position engages the floor to resist movement of the sidewall and in a second position allows the sidewall to move on the floor. Preferably, the first connector element on the rear wall partition comprises a pair of keyholes and the second connector element on the sidewall partition comprises a pair of studs that are releasably captivated in the pair of keyholes to secure the sidewall partition to the rear wall partition.

Brief Description Of The Drawings

[0012] FIGURE 1 is an isometric view of a portable, freestanding room divider system assembled to form walls of a standard exhibition booth;

[0013] FIGURE 2 is an isometric view of the rear wall partition folded for storing and transporting;

[0014] FIGURE 3 is a top view of the embodiment of the folded rear wall partition of Figure 2;

[0015] FIGURE 4 is a cut away isometric view illustrating a mechanism to attach a side wall partition to the rear wall partition;

[0016] FIGURE 5 is an end view of a side wall partition showing a stand which raises the casters above the floor;

[0017] FIGURE 6 is an isometric view of several partitions connected to define a plurality of exhibition booths;

[0018] FIGURE 7 illustrates a connector mechanism fastening two abutting rear wall dividers together; and

[0019] FIGURE 8 is an isometric view of the novel partitions connected to define another configuration of a plurality of exhibition booths.

Description of the Preferred Embodiment

[0020] With reference to Figure 1, a set of room dividers 10 for an exhibition booth comprises a rear wall partition 12 and two side wall partitions 14 and 15. To comply with conventional dimensions of an exhibition booth, the rear wall partition 12 is ten feet long and stands eight feet high. The rear wall partition 12 comprises five fabric or vinyl covered wall panels 16, 17, 18 19 and 20 of equal width and eight feet high and connected vertical edge to vertical edge in series by hinges 30 (see also

Figures 2 and 3). The hinges allow the partition to be folded into a compact configuration for storing and transporting, as will be described.

[0021] Three of the three wall panels 17, 18 and 19 have a separate foot 32 extending transversely across their bottom edges so as to project outward from both sides of the respective wall panel. A swivel caster 34 is mounted at each end of the foot 32. The swivel caster 34 are self leveling in that each comprises a wheel held in a mounting bracket from which a rod extends upward through the foot 32. A spring around the rod biases the mounting bracket downward with respect to the foot 32.

[0022] The first and last wall panels 16 and 20 in the series that forms the rear wall partition 12 are wider than the other wall panels because the first and last wall panels include a narrower metal end plate 21 or 22 rigidly attached to the outer vertical edge of the respective wall panel. Alternatively the fabric or vinyl covered portion of the first and last wall panels 16 and 20 themselves may be wider than the intermediate wall panels 17, 18 and 19. As will be described, the end plates 21 and 22 have elements of connecting mechanisms which enable the side wall partitions 14 and 15 to be securely fastened to the rear wall partition 12. An end support 24 or 26 extends transversely to each end plate 21 and 22, respectively, and has a rectangular frame that is attached to the adjacent end plate 21 or 22. The details of that attachment are shown in Figure 2. The frame of end support 26 passes through the end plate 22 which thereby extends outward from the end support. A similar connection exists between the other end plate 21 and its end support 24. Two swivel casters 36 are mounted beneath each end support 24 and 26.

[0023] With reference to Figures 2 and 3, the rear wall partition 12 can be folded at hinges 30 so that the major surfaces of the five wall panels 16-20 abut against one another. The folded wall panels 16-20 fit between the two end supports 24 and 26. The rear wall partition 12 is held in the folded state by two fasteners 40 adjacent each end plate 21 and 22. Each fastener 40 comprises a latch hook 41 that is pivotally attached to the respective end plate 21 or 22 and engaging a latch catch 42 attached to the edge of one of the wall panels 17 or 19. A handle 45 is provided on the end plates to assist the user in folding and unfolding rear wall partition 12.

[0024] Referring again to Figure 1, the two side wall partitions 14 and 15 have identical construction and consist of five side wall panels 50 with vertical edges abutting one another other in the unfolded state. Each of the wall panels 50 is covered with fabric or vinyl. Hinges connect the adjacent wall panels, allowing them to be unfolded into the illustrated linear arrangement and folded together for storage in the same manner as the rear wall partition 12. The outermost side wall panels 50 have a side wall end plate 52 or 54 fixedly attached to their exposed vertical edge. Alternatively the first and last wall panels 50 of each partition may be wider than the intermediate wall panels. The side wall end plates 52 and 54 have a transverse foot 56 or 57 secured to its bottom edge and a pair of casters 58 is attached to each end of the foot 56. Similarly, the middle three side wall panels 50 have a similar foot 60 attached transversely to their lower edges with swivel casters 62 mounted near the ends of the foot.

[0025] The foot 56, attached to the side wall end plate 52 at the remote end of the side wall 14 or 15 from the rear wall 12, has a support stand 66 pivotally attached thereto. As depicted in Figure 5, the foot 56 has a pair of spaced apart brackets 70

projecting outwardly. The support stand 65 is pivotally connected to the two brackets 70. Specifically, the support stand 65 has a support bar 67 with a pair of foot pads 69 and a pair of legs 66 welded thereto. Each leg 66 is coupled to one of the brackets 70 by a spring loaded pin 72 that extends through holes in both components. This connection enables the support stand 65 to pivot 90° between a lowered position shown by solid lines in the drawing and a raised position depicted by the dashed lines. The raised position is used during storage and transportation of the sidewall partition 14 or 15. In the lowered position, the foot pads 69 rest on the floor 68 of the exhibition hall so that the casters 58 are raised off the floor, thereby immobilizing the remote end of the respective sidewall partition 14 and 15.

[0026] The end plate 54 at the opposite end of each sidewall 14 and 15 is coupled to an end plate 21 or 22 of the rear wall partition 12. As shown in Figures 2 and 4, the rear wall partition 12 has three upper keyholes 76 on adjacent faces of the end plates and a similar trio of lower keyholes 78. Note that one of the upper and lower keyholes 76 and 78 is on the back surface of the rear wall end plate 22 in Figure 4 and thus is hidden from view. The vertical edge of each sidewall end plate 54 has two studs 80 for engaging a pair of upper and lower keyholes 76 and 78 on the adjacent rear wall end plate 21 or 22. When assembling the partitions to form an exhibition booth, the assembler lifts the sidewall end plate 54 using a recessed flush pull handle 77, so that the heads of the studs 80 are able to pass through the larger diameter portion of each keyhole 76 and 78. After the studs have been inserted into the keyholes, the end plate 54 of the sidewall is lowered so that the stud shafts enters the narrower portion of the keyholes in which the stud becomes captivated, thereby securing the sidewall 14 or 15 to the rear wall partition 12. The sidewall partition can be detached from the rear wall partition by lifting the sidewall

partition using a recessed flush pull handle 77, so that the heads of the studs 80 can pass out of the larger diameter portion of the keyholes thereby enabling sidewall partition to be separated from the rear wall partition.

[0027] As also shown in Figure 4, each rear wall end plate 21 and 22 has one upper slot 82 and two lower slots 83 to receive the hooks of horizontal pipes used with standard pipe and drape staging. This enables such staging to be used in combination with the rear wall partition 12. Near the top of each rear wall end plate 21 and 22 are two alignment tabs 84 and 86 that are attached to the two major surfaces of the end plate 22 of rear wall partition 12. The guide tabs 84 and 86 project from the side edge of the partition so that an adjacent rear wall partition 12 abutting that edge is received between those tabs to provide lateral support for that junction. The guide tabs 84 and 86 are offset vertically on a given rear wall end plate 21 or 22 to accommodate the two guide tabs 84 and 86 on the edge of the abutting rear wall partition 12.

[0028] When the present room divider system is used to subdivide a large hall into a plurality of exhibition booths as shown in Figure 6, a plurality of unfolded rear wall partitions 12 are placed end to end. With reference to Figure 7, the abutting edges of two adjacent rear wall partitions 91 and 92 are locked together by a connector 90 which secures the partitions together. A draw latch assembly 93 is attached by screws to the end plate 21 of each partition, partition 92 in the drawings, and has a hinged wing knob 95 connected by a can mechanism to a sliding hook 94. A keeper 96 is attached by screws to the other end plate 22 of rear wall partition 91. Rotating the wing knob 95, slides the hook 94 behind the keeper 96. Further rotation of the wing knob 95 draws the hook toward its room divider 92 and against the keeper 96, thereby securing the two room dividers 91 and 92 together. Connecting the rear wall partitions in this manner

adds to the stability of the exhibition booth walls and provides greater privacy between exhibitors than prior pipe and drape staging.

[0029] Referring to the configuration 100 of a plurality of exhibition booths shown in Figure 6, a separate sidewall partition 108, 110, 114 and 116 is attached to one of the end plates 21 or 22 at the junction between two rear wall partitions 102, 104 and 106. These sidewall partitions extend on both sides of these rear wall partitions, thereby forming back to back exhibition booths. An additional pair of sidewall partitions 112 and 118 are attached at the exposed end of the outer most rear wall partition 106 to define the final pair of exhibition booths along the rear walls. If a particular exhibitor desires to have a larger booth, one or more of the interior sidewalls, such as unit 110, can be eliminated to form a larger width booth.

[0030] Figure 8 illustrates an alternative configuration 120 for creating a larger exhibition booth by placing two sidewall partitions 128 and 130 and 132 and 134 aligned end to end so that the booth is twenty feet deep. The studs 80 on the end support 129 of one sidewall partition 130 and 134 of each sidewall engage the keyholes in the end section 131 of the other sidewall partition 128 and 132, respectively to lock the aligned sidewall partitions together. The partition configuration 120 also illustrates how two rear wall partitions 122 and 124 can be placed end to end without an intermediate sidewall partition so that the booth is twenty feet wide.

[0031] As will be appreciated by one skilled in the art, the present room divider system with the unique fastening mechanism can be interlocked in a large variety of configurations to provide exhibition booths that are customized to the needs of a particular exhibitor. Those configurations include sidewall or rear wall partitions

positioned in a continuous straight line, partitions interlocked at 90° or 270° orientations, and any curvilinear configurations as allowed by such positioning of the hinged panels

[0032] The foregoing description was primarily directed to preferred embodiments of the invention. Although some attention was given to various alternatives within the scope of the invention, it is anticipated that one skilled in the art will likely realize additional alternatives that are now apparent from disclosure of embodiments of the invention. Accordingly, the scope of the invention should be determined from the following claims and not limited by the above disclosure.